

WHAT IS CLAIMED IS:

1. A scanning module for emitting light to and collecting light from a photo-stimulable radiographic sheet, comprising:

(a) a housing comprising a channel; a cylindrical center chamber in communication with the channel comprising a mirrored surface; a first opening communicating with the cylindrical chamber; and a second opening communicating with the cylindrical chamber;

(b) a laser disposed in the housing and adapted to generate a beam of stimulating electromagnetic radiation through the channel and the first opening onto a stimulated area of the photo-stimulatable radiographic sheet, and wherein the stimulated spot emits light and reflected light to enter the first opening and the cylindrical chamber;

(c) a light detector disposed in the second opening for receiving light emitted and reflected into the cylindrical chamber; and

(d) a filter disposed at the second opening of the housing for selectively passing only the emitted light from the stimulated area of the photo-stimulatable radiographic sheet to the light detector.

2. The scanning module of claim 1, wherein the cylindrical center chamber has an ellipsoid shape.

3. The scanning module of claim 1, wherein the radiographic sheet is a phosphorous sheet.

4. The scanning module of claim 1, wherein the laser is a multimode, 635 nanometer, 100 mW, or a single mode 635 nanometer, 100 mW laser. ®

5. The scanning module of claim 1, wherein the filter is a blue filter.

6. The scanning module of claim 1, wherein the housing comprises a plastic, a polycarbonate, a composite, or a metal.

7. The scanning module of claim 1, wherein the housing is a molded one-piece construction.

8. The scanning module of claim 1, wherein the center chamber is an elliptical reflector comprising an overall length between 15 mm and 30 mm and a degree of curvature in the chamber between 20 degrees and 30 degrees.

9. The scanning module of claim 1, wherein the optical filter comprises an anti-reflective coating.

10. A system for emitting light to and collecting light from a photo-stimulatable radiographic sheet comprising:

(a) a housing comprising a channel; a cylindrical center chamber in communication with the channel comprising a mirrored surface; a first opening communicating with the cylindrical chamber; and a second opening communicating with the cylindrical chamber;

(b) an analog to digital converter adapted to receive a signal from the light detector;

(c) a control processing unit adapted to receive the signal from the analog to digital converter, wherein the control processing unit stores the signal; and

(d) an output device adapted to receive the signal from the control processing unit.

11. The scanning system of claim 10, wherein the reflective internal surface comprises a mirrored coating.

12. The scanning system of claim 10, wherein the cylindrical center chamber has an ellipsoid shape.

13. The scanning system of claim 10, wherein the radiographic sheet is a phosphorous sheet.

14. The scanning system of claim 10, wherein the laser is a multimode, 635 nanometer, 100 mW, or a single mode 635 nanometer, 100 mW laser.

15. The scanning system of claim 10, wherein the filter is a blue filter.

16. The scanning system of claim 10, wherein the optical filter comprises an antireflective coating.

17. The scanning system of claim 10, wherein the housing comprises a plastic, a polycarbonate, a composite or a metal.

18. The scanning system of claim 10, wherein the housing is of a molded one piece construction.

19. The scanning system of claim 10, wherein the center chamber is an elliptical reflector having an overall length between 15 and 30 mm and a degree of curvature in the chamber between 20 and 30 degrees.

20. The scanning system of claim 10, wherein the multiple modules are mounted on a rotating disc to scan radiographic media mounted on an internal rotating drum.